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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/540,765

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Koichi Matsumoto

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EXAMINER

JERABEK, KELLY L

ART UNIT

PAPER NUMBER

2622

MAIL DATE

DELIVERY MODE

08/26/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/540,765

Applicant(s)

MATSUMOTO, KOICHI

Examiner

KELLY L. JERABEK

Art Unit

2622

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 19-24 is/are pending in the application.
- 4a) Of the above claim(s) 5-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 19, 21 and 23-24 is/are rejected.
- 7) ☒ Claim(s) 20 and 22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 May 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1-4, 19, 21 and 24 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

Claim 1 is objected to because of the following informalities: In line 2 of claim 1, "an light incident side" should be changed to "a light incident side". Appropriate correction is required.

Claim 2 is objected to because of the following informalities: In line 4 of claim 2, "particularly sensitive a light beam" should be changed to "particularly sensitive to a light beam". Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 19, 21 and 23-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Merrill US 2002/0058353.

Re claim 1, Merrill (US 2002/0058353) discloses a solid-state image pickup device (active pixel sensor) comprising: a substrate (60) with a light incident side (side above detector regions 64, 70, 74) and a non-light incident side (side below detector regions 64, 70, 74) facing away from said light incident side (figure 3; page 3, paragraph 43-page 4, paragraph 47); and a photosensor section provided in said substrate (60), said photosensor section including a first photosensor (red photodiode 64) particularly sensitive to light of a first wavelength (red light wavelength) and a second photosensor (blue photodiode 74) particularly sensitive to light of a second wavelength (blue light wavelength) which is shorter than the first wavelength (red light wavelength); wherein, said first photosensor (64) extends toward said non-light incident side to an extent greater than does said second photosensor (74) (figure 3; page 3, paragraph 43-page 4, paragraph 47).

Re claim 2, Merrill (US 2002/0058353) further discloses that the first photosensor (64) is particularly sensitive to a light beam of red or green color

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(red) and the second photosensor (74) is particularly sensitive to a light of the blue color (figure 3; page 3, paragraph 43-page 4, paragraph 47).

Re claim 3, Merrill (US 2002/0058353) further discloses that the first photosensor (64) is particularly sensitive to a light beam of red color and a second photosensor (70) is particularly sensitive to a light of the green color (figure 3; page 3, paragraph 43-page 4, paragraph 47).

Re claim 4, Merrill (US 2002/0058353) further discloses that the first photosensor (64) and the second photosensor (74) are provided at adjacent locations relative to said light incident surface but separated away from each other by a potential barrier section (pn junctions and well regions between the red, green and blue photon collection sections) (figure 3; page 3, paragraph 43-page 4, paragraph 47).

Re claims 19 and 21, Merrill (US 2002/0058353) discloses all of the limitations of 1 above. In addition, Merrill further discloses a read gate (well regions 110, 112, 114 for forming readout circuits for reading out signals from the red, green and blue detectors) within the substrate (90) at a location farther away from said light incident surface than the first photosensor (red detector 94) and adjacent to a second photosensor (blue detector 116) (page 5, paragraphs 55-59; figures 4D, 4E).

Re claim 23, Merrill (US 2002/0058353) further discloses that the photosensor section includes first and second color filters (vertical color filter detector group containing red and blue color filters) in registry with the first and second photosensors (64, 74), respectively (figure 3).

Re claim 24, Merrill (US 2002/0058353) further discloses that the first photosensor (red photodiode 64) is larger than the second photosensor (blue photodiode 74) along a dimension extending between said light incident and non-light incident sides of said substrate (figure 3; page 3, paragraph 43-page 4, paragraph 47).

Allowable Subject Matter

Claims 20 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Re claim 20, the prior art fails to teach or suggest, "A solid-state image pickup device comprising: a substrate with a light incident side and a non-light incident side facing away from said light incident side; and a photosensor section provided in said substrate, said photosensor section including a first photosensor particularly sensitive to light of a first wavelength and a second photosensor particularly sensitive to light of a second wavelength which is shorter than the

first wavelength, **wherein, said first photosensor extends toward said non-light incident side to an extent greater than does said second photosensor**, wherein said first photosensor is particularly sensitive to a light beam of the red or green color and said second photosensor is particularly sensitive to a light beam of the blue color, further comprising: **a channel section in said substrate at a location beneath said second photosensor relative to said light incident surface; and a gate for transporting electric charge obtained as a result of a photoelectric conversion process carried out by said first photosensor to said channel section "**.

Re claim 22, the prior art fails to teach or suggest, "A solid-state image pickup device comprising: a substrate with a light incident side and a non-light incident side facing away from said light incident side; and a photosensor section provided in said substrate, said photosensor section including a first photosensor particularly sensitive to light of a first wavelength and a second photosensor particularly sensitive to light of a second wavelength which is shorter than the first wavelength, **wherein, said first photosensor extends toward said non-light incident side to an extent greater than does said second photosensor**, further comprising: a read gate provided in said substrate and adjacent said second photosensor relative to said light incident surface, **further comprising a channel section in said substrate and beneath said second photosensor relative to said light incident surface, wherein, said read gate is effective to**

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transport electric charge from said second photosensor to said channel section ".

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Contacts

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kelly L. Jerabek whose telephone number is

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(571) 272-7312. The examiner can normally be reached on Monday - Friday (8:00 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached at **(571) 272-3022**. The fax phone number for submitting all Official communications is **(571) 273-7300**. The fax phone number for submitting informal communications such as drafts, proposed amendments, etc., may be faxed directly to the Examiner at (571) 273-7312.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Kelly L. Jerabek/

Examiner, Art Unit 2622